# **INDEX TO VOLUME 59**

# **Author and Subject Index**

#### AUTHOR

ALLEN, J.R. and K.W. KNUTSON. The effect of cold storage on the growth and development of tissue culture propagated potato plantlets, 459, (abst).

ALLEN, T.C. and J.R. DAVIS. Distribution of tobacco rattle virus and potato virus X in leaves, roots, and fruits and/or seeds of naturally-infected weeds, 149.

ARSLAN, A., P.M. BESSEY, K. MATSUDA, and N.F. OEBKER. Physiological effects of Psyllid (*Paratrioza cockerelli*) on potato, 459, (abst).

ARTECA, R.N. Influence of IAA, NAA and 2,4-D on ethylene production by potato discs (Solanum tuberosum L. cv. Red Pontiac), 267.

ASHLEY, R.A. see Wilcox, D.A.

BANTTARI, E.E. and G.D. FRANC. Enzyme-linked immunosorbent assay with single or combined antisera for viruses S and X in potato tubers and plants, 375.

BANVILLE, G. Receptivity of potato tubers to black scurf as influenced by varieties and cultural practices, 460, (abst).

BERGMAN, E.L., see Harrison, H.C.

BESSEY, P.M., see Arslan, A.

BIDWELL, D.E., see Slack, S.A., Sutula, C.L.

BOITEAU, G. and R.P. SINGH. Evaluation of mineral oil sprays for reduction of virus Y spread in potatoes, 253.

BOITEAU, G. and F.A. WOOD. Persistence of mineral oil spray deposits on potato leaves, 55.

BOWMAN, J.E. and L. SEQUEIRA. Resistance to *Pseudomonas solanacearum* in potato: infectivity titrations in relation to multiplication and spread of the pathogen, 155.

BOWMAN, T. and A.R. WEINHOLD. Control of rhizoctonia stem and stolon disease and plant characteristics, 461, (abst).

BROWN, C.R., S.A. RIZVI, and E.N. FERNANDEZ-NORTHCOTE. Breeding for combined resistance to PVY and PLRV, 461, (abst).

BRYAN, J. Rapid multiplication techniques and their uses, 461, (abst).

CALÚA, L.A. and H.A. MENDOZA. Inheritance of earliness in the autotetraploid potato, 462, (abst).

CAMADRO. E.L. and S.J. PELOQUIN. Selfing rates in two wild polyploid solanums, 197. CAMPBELL, A.J., see Platt, H.W.

CARGILL, B.F., H.S. POTTER, R.L. LEDEBUHR, M.W. GLOVER, and J. SHRIVER. Market quality of potatoes is influenced by prestorage application equipment and thiabendazole (TBZ) concentration, 463, (abst).

CASH, J.N., see Chase, R.W., Huang, P.D.

CHASE, R.W., R.W. KITCHEN, J.N. CASH, and C.R. SANTERRE. The relationship of variety, nitrogen level, and harvest date to yield, specific gravity, sucrose, and chip quality, 463, (abst).

COLE, R.H., see Harrison, H.C.

CORSINI, D.L. and J.J. PAVEK. Dry rot resistance — fusarium species and temperature effects, 462, (abst).

CORSINI, D.L., see Pavek, J.J., Twomey, J.A.

CORSINI, G.S., see Davis, J.R.

CROWLEY, F.C. and S.D. DeBOER. Nonpathogenic bacteria associated with potato stems cross-react with Corynebacterium sepedonicum antisera in immunofluorescence, 1.

- CURWEN, D.E., E.J. SHIELDS, and J.R. HYGNSTROM. Potato IPM program in Wisconsin, 463, (abst).
- CURWEN, D., see Tanner, C.B.
- DALI, T., see Tein Po, P.H.
- D'APPOLONIA, B., see Orr, P.H.
- DAVIS, J.R., see Allen, T.C.
- DAVIS, J.R., L.H. SORENSEN, and G.S. CORSINI. Interactions of potato seed pathogens: *Erwinia* spp. and *Fusarium roseum* f. sambucinum, 464, (abst).
- DAWSON, W.O., see Lozoya-Saldana, H.
- DeBOER, S.D., see Crowley, F.C.
- DeBOER, S.H., see Wright, N.S.
- DeJONG, H. Inheritance of sensitivity of metribuzin in cultivated diploid potatoes, 464, (abst).
- DUFFUS, J., see Liu, H.-Y.
- DWELLE, R.B., see Gawronska, H.
- DWELLE, R.B. and P.J. HURLEY. Comparative effects of Symcoat and GA seedpiece treatments on the development of Russet Burbank potato plants, 465, (abst).
- DWELLE, R.B., P.J. HURLEY, and J.J. PAVEK. Photosynthesis and stomatal conductance of potato clones — comparative differences in diurnal patterns, in response to light levels, and in assimilation by upper and lower leaf surfaces, 466, (abst).
- ECHANDI, E., see Hidalgo, O.A.
- ELANGO, F. A simple greenhouse inoculation technique for screening true potato seedlings for their tolerance to *Rhizoctonia solani*-induced damping-off, 466, (abst).
- EWING, E.E., see Sherman, M.
- FARNSWORTH, B., see Johansen, R.H.
- FARNSWORTH, S., see Stallknecht, G.F.
- FERERES, E., see Wolfe, D.W.
- FERNANDEZ-NORTHCOTE, E.N., see Brown, C.R.
- FLEMING, J., see McCrae, D.C.
- FRANC, G.D., see Banttari, E.E., McCarter-Zorner, N.J.
- GAWRONSKA, H., R.B. DWELLE, and J.J. PAVEK. Partitioning of photoassimilates by four potato clones, 467, (abst).
- GAWRONSKA, H., R.B. DWELLE, and G.F. STALLKNECHT. The translocation of <sup>14</sup>C-coumarin in Russet Burbank potato plants, 468, (abst.)
- GINGER, M.W., see Hampson, C.P.
- GLOVER, M.W., see Cargill, B.F.
- GOLTZ, S.M., see Pettite, J.M.
- GOODING JR., G.V., N.A. LAPP and L.G. WILSON. Potato leafroll virus and potato virus Y in seed potatoes used to plant the North Carolina crop, 125.
- GOTH, R.W. and R.E. WEBB. Effect of supportive media on the growth and development of Helminthosporium solani, 468, (abst).
- GRAHAM, D.C., see McCarter-Zorner, N.J.
- GROSS, D., see Knowles, N.R.
- GROSS, D.C., see Knowles, N.R.
- GUTBROD, O. and J. KELLEY. Rapid multiplication in seed certification programs, 469, (abst).
- GUTIERREZ, L., H.A. MENDOZA, and P. JATALA. Inheritance of resistance to root-knot nematode, *Meloidogyne incognita* in diploid potato progenies, 469, (abst).
- HAMPSON, C.P. and M.W. GINGER. Variety trials-consumer responses to variety names, 470, (abst).
- HANNEMAN, JR., R.E., see Sanford, J.C.
- HARRISON, H.C., E.L. BERGMAN and R.H. COLE. Growth responses, cooking quality determinations, and leaf nutrient concentrations of potatoes as related to exchangeable calcium, magnesium and potassium in the soil, 113.
- HARRISON, M.D., see Lahman, L.K., McCarter-Zorner, N.J., Nnodu, E.C.

HELDMAN, D.R., see HUANG, P.D.

HIDALGO, O.A. and E. ECHANDI. Evaluation of potato clones for resistance to tuber and stem rot induced by Erwinia chrysanthemi, 585.

HILLER, L.K., see Koller, D.C.

HOLM, D.G., see Twomey, J.A.

HOWARD, R.J., see Nelson, G.A.

HOYMAN, W.G. Effect of D-D and Soilbrom-85 on incidence of sclerotinia stem rot of potato, 470, (abst).

HU, CHING-YEH, see Wang, Po-Jen.

HUANG P.D., J.N. CASH, and D.R. HELDMAN. Alcohol production from potato processing wastes, 471 (abst).

HUNG, YUNG-TSE and B.D. PRIEBE. Evaluation of the combined anaerobic-aerobic treatment of potato processing wastewaters, 471, (abst).

HURLEY, P.J., see Dwelle, R.B.

HUTCHISON, P.S., see McCrae, D.C.

HYGNSTROM, J.R., see Curwen, D.E.

IRITANI, W.M. Control and manipulation of seed tuber behavior and physiological age of potato seed tubers, 472, (abst).

IRITANI, W.M., see Knowles, N.R., Sacher, R.F.

JATALA, P., see Gutierrez, L.

JOHANSEN, R.H., B. FARNSWORTH, G.A. SECOR, D.C. NELSON, P.H. ORR and E.P. LANA. Crystal: an oblong, white-skinned potato cultivar, 131.

JOHNSTON, G.R. AND R.G. ROWBERRY. Simcoe: A new early maturing, chipping potato variety, 39.

JORGENSEN, N.A., see Parfitt, D.E.

KELLEY, J., see Gutbrod, O.

KIMPINSKI, J. The effect of nematicides on *Pratylenchus penetrans* and potato yields, 327. KITCHEN, R.W., see Chase, R.W.

KLEIN, R.E. and C.H. LIVINGSTON. Eradication of potato virus X from potato by ribavirin treatment of cultured potato shoot tips, 359.

KLEINKOPF, G.E. Scheduling nitrogen applications for Russet Burbank potatoes, 472, (abst).

KNOWLES, N.R., W.M. IRITANI, L.D. WELLER, and D. GROSS. Susceptibility of potatoes to bacterial rot and weight loss as a function of wound-healing interval and temperature, 473, (abst).

KNOWLES, N.R., W.M. IRITANI, L.D. WELLER and D.C. GROSS. Susceptibility of potatoes to bacterial rot and weight loss as a function of wound-healing interval and temperature, 515.

KNUTSON, K. Stem cutting and blackleg reduction in certified seed potato stocks, 473, (abst).

KNUTSON, K.W. The Influence of stem-cut seed stocks on the incidence of blackleg in Colorado's certified potato acreage, 474, (abst).

KNUTSON, K.W., see Allen, J.R., Lahman, L.K.

KOEHNKE, M. What warranties do farmers give when they sell their certified seed potatoes? 474, (abst).

KOLLER, D.C. and L.K. HILLER. The effect of planting date and soil temperature on brown center and hollow heart in Russet Burbank potatoes, 475, (abst).

KUHNS, L.J., see May, B.

LAHMAN , L.K., M.D. HARRISON and K.W. KNUTSON. Pre-harvest chemical applications for control of tuber infection by Alternaria solani, 523.

LANA, E.P., see Johansen, R.H.

LANDEO, J.A. and H.A. MENDOZA. Increasing the adaptability of highland tropic potatoes to longer latitudes, 475, (abst).

LANG, D.J. and A.R. LANGILLE. Evidence of absorption and translocation of foliar applied kinetin-8-C<sup>14</sup> in the potato plant, 547.

LANGILLE, A.R., see Lang, D.J.

LAPP, N.A., see Gooding, G.V.

LAUBENGAYER, J.E., see Tingey, W.M.

LAUGHLIN, W.M., G.R. SMITH and M.A. PETERS. A multipurpose wetting agent, WEX, and a cultured biological product, Agrispon, leave potato yields unchanged, 87.

LEDEBUHR, R.L., see Cargill, B.F.

LEUE, E.F. and S.J. PELOQUIN. Yield and relative maturity of diploid F, hybrids of haploids × wild species, 475, (abst).

LI, P.H., see Po, Tein.

LISTER, R.M., see Paiva, E.

LIU, H.-Y. and J. DUFFUS. The differentiation of distinct serotypes from potato leaf roll affected plants by enzyme-linked immunosorbent assay (ELISA), 476, (abst).

LIVINGSTON, C.H., see Klein, R.E.

LOZOYA-SALDANA, H. and W.O. DAWSON. The use of constant and alternating temperature regimes and tissue culture to obtain PVS-free potato plants, 221.

LYNCH, D.R., G.C.C. TAI, D.A. YOUNG, and B. SCHAALJE. Effect of selection location on early generating selection efficiency in a cooperative potato breeding project, 476, (abst).

MANZER, F.E., see True, R.M.

MANZER, F.E., D.C. MERRIAM, R.H. STORCH and G.W. SIMPSON. Effect of time of inoculation with potato leafroll virus on development of net necrosis and stem-end browning in potato tubers, 337.

MARTIN, M.J., see Rowe, R.C.

MARTIN, M.W. Performance of true potato seed lines when field seeded, 477, (abst).

MARTIN, M.W. and P.E. THOMAS. Parental line development and maintenance for breeders, 477, (abst).

MATSUDA, K., see Arslan, A.

MAY, B., J.E. STAUB and L.J. KUHNS. Potato cultivars: genetic variation within putative clones, 179

McCARTER-ZORNER, N.J., D.C. GRAHAM, M.D. HARRISON, C.E. QUINN, I.A. SELLS, C. PAGET, J.E. MICHAUD, and G.D. FRANC. The presence of *Erwinia carotovora* in surface water, 478, (abst).

McCARTER-ZORNER, N.J., M.D. HARRISON, D.C. GRAHAM, C.E. QUINN, A.I. SELLS, and G.D. FRANC. The association of *Erwinia carotovora* sub. sp. *carotovora* and *E. carotovora* sub. sp. *atroseptica* with the rhizosphere of weeds, 478, (abst).

McCRAE, D.C., P.S. HUTCHISON, and J. FLEMING. The development of power driven disc shares for two-row high throughput potato harvesters, 479, (abst).

McHALE, N. see Quiros, C.F.

McHALE, N.A. Phenotypic variation for 2n pollen in S. phureja, 479, (abst).

McMILLAN, L.P., see Misener, G.C.

MEHLENBACHER, S.A., see Tingey, W.M.

MENDOZA, H.A., see Calúa, L.A., Gutierrez, L., Landeo, J.A.

MENDOZA, H.A. and R.O. WISSAR. Breeding for adaptation to the hot climates, 480, (abst).

MERRIAM, D.C., see Manzer, F.E.

MICHAUD, J.E., see McCarter-Zorner, N.J.

MISENER, G.C. and L.P. McMILLAN. A single-hill potato digger, 551.

MOK, IL GIN and S.L. PELOQUIN. Sexual polyploidization and protein diversity in potatoes, 480, (abst).

MUNSON, S.T., see Orr, P.H.

NELSON, D.C., see Johansen, R.H.

NELSON, D.C. and M.C. THORESON. Effect of seed tuber and seed piece size on growth and incidence of hollow heart in Norgold Russet potatoes, 367.

- NELSON, G.A. and R.J. HOWARD. Effect of the ring rot pathogen and latent potato viruses on ring rot symptoms and yield of potatoes, 213.
- NNODU, E.C., M.D. HARRISON and R.V. PARKE. The effect of temperature and relative humidity on wound healing and infection of potato tubers by Alternaria solani, 297.
- NNODU, E.C., M.D. HARRISON and M. WORKMAN. The effect of storage environment on the infection of potato tubers by *Alternaria solani*, 313.
- OCHOA, C. Solanum burtonii, a new wild potato species from Ecuador, 263.
- O'DAY, R. and J. SALIK. Commercial virus and bacterial disease test kits, 481, (abst).
- OEBKER, N.F., see Arslan, A.
- ORR, P.H., see Johansen, R.H.
- ORR, P.H., R.B. TOMA, S.T. MUNSON and B. D'APPOLONIA. Sensory evaluation of breads containing various levels of potato peel, 605.
- PAGET, C., see McCarter-Zorner, N.J.
- PAIVA, E., R.M. LISTER and W.D. PARK. Comparison of the protein in axillary bud tubers and underground stolon tubers in potatoes, 425.
- PARFITT, D.E. and S.J. PELOQUIN. Yield trials and economic analyses to select cultivars for salvage for silage production, 395.
- PARFITT, D.E., S.J. PELOQUIN and N.A. JORGENSEN. The nutritional value of pressed potato vine silage, 415.
- PARK, W.D., see Paiva, E.
- PARKE, R.V., see Nnodu, E.C.
- PAVEK, J.J., see Corsini, D.L.
- PAVEK, J.J., see Dwelle, R.B., Gawronska, H., Twomey, J.A.
- PAVEK, J.J. and D.L. CORSINI. An improved method for screening potato clones for blackspot reaction, 481, (abst).
- PAVEK, J.J. and D.L. CORSINI. Field performance of clones from regenerated protoplasts of Russet Burbank, 482, (abst).
- PELOQUIN, S.J., see Camadro, E.L., Leue, E.F., Mok, Il Gin, Parfitt, D.E.
- PETERS, M.A., see Laughlin, W.M.
- PETTITE, J.M. and S.M. GOLTZ. Effect of cyclic water stress on photosynthesis and transpiration of potato (*Solanum tuberosum* cv. BelRus), 482, (abst).
- PHELPS, J.P., see Roberts, S.
- PISARCZYK, J.M. Field harvest damage affects potato tuber respiration and sugar content, 205.
- PLAISTED, R.L., see Tingey, W.M.
- PLATT, H.W. and A.J. CAMPBELL. Comparison of a controlled droplet and conventional sprayer for application of fungicides to control potato late blight, 351.
- PO, TEIN, P.H. LI and T. DALI. Potato degeneration research in China, 46.
- POTTER, H.S., see Cargill, B.F.
- PRIEBE, B.D., see Hung, Yung-Tse.
- OUINN, C.E., see McCarter-Zorner, N.J.
- QUIROS, C.F. and N. McHALE. Genetics of isozymes in diploid potatoes, 483, (abst).
- REEVES II, A.F. Potato chip color ratings of advanced selections from the Maine potato breeding program, 389.
- RIEDEL, R.M., see Rowe, R.C.
- RIZVI, S.A., see Brown, C.R.
- RIZVI, S.A.H. Selection of clones with higher level of potato leafroll virus (PLRV) resistance, 483, (abst).
- ROBERTS, S., W.H. WEAVER and J.P. PHELPS. Effect of rate and time of fertilization on nitrogen and yield of Russet Burbank potatoes under center pivot irrigation, 77.
- ROWBERRY, R.C., see Johnston, G.R.
- ROWE, R.C., M.J. MARTIN, and R.M. RIEDEL. A clay tile microplot system for field studies on nematode/fungus interactions on potato, 483, (abst).

- ROWE, R.C., M.J. MARTIN, and R.M. REIDEL. Yield loss assessment in potato early dying resulting from simultaneous infection with *Verticillium dahliae* and *Pratylencus pene*trans, 484, (abst).
- SACHER, R.F. and W.M. IRITANI. Tetrazolium tests as indicators of tuber physiological age and yield potential, 613.
- SALIK, J., see O'Day, R.
- SANDERSON, J.B. and R.P. WHITE. Effect of in-row spacing on potato tuber yields, sizes, and numbers measured at ten weekly sampling dates, 484, (abst).
- SANFORD, J.C. and R.E. HANNEMAN JR. Intermating of potato haploids and spontaneous sexual polyploidization—effects on heterozygosity, 407.
- SANFORD, L.L. Effect of plant age on leafhopper infestation of resistant and susceptible potato clones, 9.
- SANTERRE, C.R., see Chase, R.W.
- SARAFIAN, S. Computer programs for cost accounting and packing shed operation, 485, (abst).
- SCHAALJE, B., see Lynch, D.R.
- SECOR, G.A., see Johansen, R.H.
- SELLS, A.I., see McCarter-Zorner, N.J.
- SELLS, I.A., see McCarter-Zorner, N.J.
- SEQUEIRA, L., see Bowman, J.E.
- SHERMAN, M. and E.E. EWING. Temperature, cyanide, and oxygen effects on the respiration, chip color, sugars, and organic acids of stored tubers, 165.
- SHIELDS, E.J., see Curwen, D.E.
- SHRIVER, J., see Cargill, B.F.
- SIMPSON, G.W., see Manzer, F.E.
- SINDEN, S.L., see Tingey, W.M.
- SINGH, R.P. see Boiteau, G.
- SLACK, S.A. Pathogen testing: the concept of pathogen-free versus disease-free stocks in seed potato production, 485, (abst).
- SLACK, S.A., A. VOLLER and D.E. BIDWELL. Evaluation of the POTASCREEN<sup>TM</sup> ELISA kit for PVX testing, 486, (abst).
- SMITH, G.R., see Laughlin, W.M.
- SNYDER, R. Irrigation management and computers, 486, (abst).
- SORENSEN, L.H., see Davis, J.R.
- STAUB, J.E., see May, B.
- STALLKNECHT, G.F., see Gawronska, H.
- STALLKNECHT, G.F. and S. FARNSWORTH. General characteristics of coumarin-induced tuberization of axillary shoots of *Solanum tuberosum* L. cultured *in vitro*, 17.
- STALLKNECT, G.F. and S. FARNSWORTH. The effect of the inhibitors of protein and nucleic acid synthesis on the coumarin-induced tuberization and growth of excised axillary shoots of potato sprouts (Solanum tuberosum L.) cultured in vitro, 69.
- STILES, D.G. Maine's anti-bruise campaign—storage handling and packing phase, 487, (abst). STORCH, R.H., see Manzer, F.E.
- SUTULA, C.L., A. VOLLER and D.E. BIDWELL. POTASCREENTM— a convenient, rapid, and reliable method for detecting potato viruses and bacteria, 488 (abst).
- TAI, G.C.C., see Lynch, D.R.
- TANNER, C.B., G.G. WEIS and D. CURWEN. Russet Burbank rooting in sandy soils with pans following deep plowing, 107.
- THODEY, A. A tool for management decisions, 488, (abst).
- THOMAS, P.E., see Martin, M.W.
- THORESON, M.C., see Nelson, D.C.
- TIMM, H., see Wolfe, D.W.

- TINGEY, W.M., R.L. PLAISTED, J.E. LAUBENGAYER and S.A. MEHLENBACHER. Green peach aphid resistance by glandular trichomes in *Solanum tuberosum* x *S. berthaultii* hybrids, 241.
- TINGEY, W.M. AND S.L. SINDEN. Glandular pubescence, glycoalkaloid composition, and resistance to the green peach aphid, potato leafhopper, and potato flea-beetle in *Solanum berthaultii*, 95.
- TOMA, R.B., see Orr, P.H.
- TOWILL, L.E. Low temperature (-196°) storage of true seed from the tuber-bearing *Solanum* species, 141.
- TRUE, R.M., T.M. WORK and F.E. MANZER. The effect of Ridomil on the flavor of riced baked potatoes, 65.
- TWOMEY, J.A., J.J. PAVEK, D.G. HOLM, M. WORKMAN and D.L. CORSINI. Sangre: an oval, high quality red potato, 435.
- UPHAM, S. Commercial plant propagation techniques, 489, (abst).
- VARNS, J.L. The release of methyl chloride from potato tubers, 593.
- VOLLER, A., see Slack, S.A., Sutula, C.L.
- VOSS, R.E., see Wolfe, D.W.
- WANG, PO-JEN and CHING-YEH HU. In vitro mass tuberization and virus-free seed-potato production in Taiwan, 33.
- WEAVER, W.H., see Roberts, S.
- WEBB, R.E., see Goth, R.W.
- WEINHOLD, A.R., see Bowman, T.
- WEIS, G.G., see Tanner, C.B.
- WELLER, L.D., see Knowles, N.R.
- WHITE, R.P., see Sanderson, J.B.
- WILCOX, D.A. and R.A. ASHLEY. The potential use of plant physiological responses to water stress as an indication of varietal sensitivity to drought in four potato (Solanum tuberosum L.) varieties, 533.
- WILSON, L.G., see Gooding, G.V.
- WISSAR, R.O., see Mendoza, H.A.
- WOLFE, D.W., E. FERERES, R.E. VOSS, and H. TIMM. Growth and yield response of two potato cultivars to various levels of applied water, 490, (abst).
- WOOD, F.A., see Boiteau, G.
- WORK, T.M., see True, R.M.
- WORKMAN, M., see Nnodu, E.C., Twomey, J.A.
- WRIGHT, N.S. "Bud" and S.H. DeBoer. Seed potato pathogen control strategies in British Columbia, 491, (abst).
- YOUNG, D.A., see Lynch, D.R.

## **SUBJECT**

Abscisic acid, 17, 24

Actinomycin D, 69

Aging, 613, 617

Agrispon, 87

Agtron readings, 137

ALAR, 27

Alcohol production, 471

Anti-bruise campaign, 487

Aphid transmission of virus, 55, 346, 348

Auxin, 273

Axillary leaf bud tuber, 425

```
Bacteria
```

Agrobacterium tumefaciens, 162

Corynebacterium sepedonicum, 1-8, 213-7, 488

Erwinia

amylovora, 162

carotovora, 133, 478

carotovora subsp. atroseptica, 464, 478-79, 488, 585

strain SR-302, 587, 589, 591

carotovora subsp. carotovora, 473, 474, 478-79, 491, 515, 517, 519

strain SR-022, 586, 589, 591

chrysanthemi, 585

strain SR-298, 586, 589, 591

Pseudomonas

fluorescens, 133

solanacearum, 155-63

Bacterial ring rot, 1, 213

Bacterial wilt, 155

Baked potato flavor, 65

Benzyladenine, 35

Blackleg, 464, 473-4

Black scurf, 460

Blackspot, 435, 481

Diackspot, 4.

Blitecast, 66

Brown center, 475

Brown rot, 155

Bulking rate, 77

n-Butane, 593, 600, 603 Carbon assimilation, 466

14C, 467

CCC, 27

Center pivot irrigation, 77, 86

Chemical elements

aluminum, 113

boron, 113

copper, 113

manganese, 113

potassium, 122

zinc, 113

Chemotherapy, 359-60

Chip color, 113, 122, 165, 167, 173, 176, 389, 393, 463

Chloromethane, 593

Chloramphenicol, 69

Colorado potato beetle, 10, 96, 245

Common scab, 39

Computer programs, 485

Coumarin, 17, 26, 69

Coumarin-3 14C, 19, 21

<sup>14</sup>C coumarin, 468

Cultivar identification, 179

Cyanide, 165

Deep plowing, 107

Dietary fiber, 605

Diflubenzuron, 10

DMSO, 523, 526-31

Dollar return, 400

Dry matter, 82-4

D-vac, 97

Early blight, 297, 313, 435, 523

Earliness, 462

Early dying of potato, 484

Electrophoresis, 179, 182-5, 425

ELISA, 150, 152, 227, 255, 337, 341, 346, 375-6, 378, 385-6, 476, 486, 488

Enzyme linked immunosorbent assay, 375

Ethylene, 24, 267

Ethylene production, 269

FDR, 413

Feeding value, 415, 418

Flea beetles, 96, 97

5-Fluorouracil, 69

Foliar TGA levels, 96, 101, 415, 418-19

Formaldehyde, 523, 527-9

Formazan red, 615

Fresh weight, 82-4

Frost adaptation, 475

Fructose, 173, 206

Fungi

Agaricus bisporus, 594

Alternaria solani, 297-302, 304-6, 313-14, 317, 322-3, 523-31

Fusarium

coeruleum, 462

roseum f. sambucinum, 464

sambucinum, 462

Helminthosporium solani, 468

Phytophthora infestans, 133, 214, 259, 314, 353

Rhizoctonia, 39

solani, 41, 461, 466

Sclerotinia sclerotiorum, 470

Sporidesmium sclerotivorum, 470

Streptomyces scabies, 41, 131, 133

Verticillium, 435, 482

dahliae, 133, 219, 464, 484

**Fungicides** 

Bravo, 353-4

Captan, 524, 526

Difolatan 4F, 260, 523, 526-9, 531

Dithane M-45, 66, 260, 353-4

Du-Ter, 260, 526-9, 531

Manzate D, 523, 526-31

Orthocide 50 WP, 524

Oxycop 8L, 526

Polyram, 260

Ridomil, 65

Genetic variation, 179

Gibberellic acid, 17, 143, 465

Glandular trichomes, 95, 241, 250

Type A, 95, 99, 241, 243-4, 248

Type B, 95, 99, 241, 243-4

Glucose, 173, 206

Glycoalkaloids

Alpha-solamarine, 98, 104 Beta-solamarine, 98, 104

Chaconine, 99, 100

Solamargine, 96, 98

Solanadine, 98, 99

Solanine, 99, 104

Solamile, 99, 10

Solasodine, 98

Solasonine, 96, 98 Tomatidenol, 98

Tomatidenoi, 9

Tomatidine, 98

Golden nematode, 39

Gram stain, 1

Glucose, 173, 206

Hardy-Weinberg, 412 Heat tolerance, 480

Herbicides

Gramoxone, 352

Metribuzin, 464

Sencor, 352

Hollow heart, 367, 371-2, 435, 475

Hypersensitive reaction, 346

IAA, 267

Immunodiffusion, 425

Immunoelectrophoresis, 425

Immunofluorescence cross reaction, 1

Indirect fluorescent antibody stain, 1

Indole acetic acid, 17

In row spacing, 484

Insecticides

Aldicarb, 327, 330-1, 334

Carbaryl, 245

Disulfoton, 327, 331

Endosulfan, 215

Pirimicarb, 215

Insects

Aphis nasturtii, 55

Bombus hortorum, 198

Empoasca fabae, 9, 95, 96

Epitrix cucumeris, 95

Leptinotarsa decemlineata, 96

Macrosiphum euphorbiae, 55

Myzus persicae, 55, 95-7, 99, 241, 245, 337, 340, 483

Paratrioza cockerelli, 459

Rhopalosiphum padi, 55

Inter-mating, 407

In vitro culture, 33

IPM Program, 463

Irrigation management with computer, 486

Isozyme analysis, 186

Isozymes, 483

Kinetin, 26, 69, 547, 549-50

Late blight, 39, 65, 133, 259, 351, 353, 435

Latent infection, 7

Leaf-bud cuttings, 461, 473

Leaf diffusive resistance, 533, 536

Low level jet stream, 348

Low storage temperature, 141

Management decisions, 488

Meristem culture, 33, 478

Methylchloride, 593, 597-603

Micromax spinning cone, 351

Mild mosaic, 39

Mite

Tetranychus urticae, 96

NAA, 267

NaDIECA, 378, 386

Naphthalene acetic acid, 17

Nematodes

Globodera rostochiensis, 39

Meloidogyne incognita, 469 Pratylenchus crenatus, 330

P. penetrans, 327, 484

Net necrosis, 337, 339, 341-3, 435

Nitrogen fertilizer, 77, 86, 87, 113, 472

Nuclear seed stocks, 469

Nutrient solution, 544

Obituaries

C.E. Botkin, 581

C.H. Dearborn, 512

Oil formulations

Atplus 300F, 58

Corntrol oil, 56, 58, 62, 254, 256

Co-op surfactant oil, 58, 256

Green Cross Booster Plus, 58, 256

Kornoil Agricultural Adjuvant, 58, 256

Kornoil Concentrated Adjuvant, 58, 256

JMS Stylet Oil, 58, 256-7

Pfizer XA, 58, 256

Oil persistence equation, 62

Oil spray, 253

Oil spray residues, 55

O2 Uptake, 174

Ouchterlony double diffusion, 3

Ozone injury, 116

PAA

Abstracts of Papers, 459

Advance registration for Annual Meeting, 190

Advertising Manager's Report, 503

Annual Meeting announcement, 53

Annual meeting at Michigan State University, 628

Asian Potato Association, 509

Audit Committee, 495

Book Review, 404

Business Editor's Report, 502

Call for Nominations for 1982 Life Memberships, 94

Call for Nominations for 1983 Life Memberships, 194, 631

Call for Papers for 1982 Meetings, 51

Call for Papers for 1983 Meetings, 629

Committees for 1982-83, 444

Editor's Report, 501

Graduate Student Committee, 497, 584

Index to Volume 59, 643

Letters to the Editor, 572

Life Members, 440

List of individual members of The PAA, 632

Local Arrangements, 496

Membership Secretary's Report, 504

Minutes of Annual Meeting, 564

Minutes of Executive Committee Meeting, 556

Papers in Potato Research for 1981, 292

Program, 66th Meeting, 275

Sections for 1982-83, 44

Section Reports

Breeding and Genetics, 500

Certification, 498

Extension, 499

International Relations, 571

Pathology, 493

Plant Physiology, 493

Utilization, 494

Treasurer's Report, 505

PAGE, 486

Para-fluorophenylalanine, 69

Parallel spindles, 197

Pathogen testing, 485

Photosynthesis, 482, 536

Physiological age, 472

Phytotoxicity, 253, 258, 261, 364

Plant Species

Agropyron repens, 152

Amaranthus retroflexus, 151

Bidens frondoso, 151

Brassica

kaber, 152

oleracea, 245

Cecropia, 266

Cedrela, 266

Ceratoides lanata, 151

Chenopodium album, 151-2

Chusquea, 266

Cirsium arvense, 152

Erodium circutarium, 152

Euphorbia serpyllfolia, 152

Gomphrena globosa, 215, 359, 362, 376

Helianthus annuus, 151

Hordeum vulgare, 152

Juglans, 266

Kalanchoe, 307

Lactuca, 151

Lupinus, 266

Lycopersicon, 483

Medicago sativa, 152, 415, 417

Nicotiana

debneyi, 376

rustica, 222

tabacum, 125, 126

Panicum capillare, 152

Plantago major, 151

Polygonum

convolvulus, 151-2

persicaria, 152

Populus deltoides, 152

Portulaca oleracea, 151

Potentilla fruticosa, 152

Ranunculus repens, 151

Salix, 151

Setaria viridis, 151

Sonchus, 152

Taraxacum officinale, 152

Tribulus terrestris, 151

Xanthium strumarium, 151

Potascreen<sup>TM</sup>, 486, 488 Potato

Varieties

New

Crystal, 131-2, 134-5

Sangre, 435

Simcoe, 39, 40, 42

Old

Abnaki, 65

Allagash Russet, 389-93

Alaska Red, 185

Atlantic, 10, 13, 14, 114, 117-21, 123, 128, 225-8, 390, 393, 463, 534, 537-8, 541, 543

Bake King, 88, 90

Belchip, 128, 390, 393, 463

BelRus, 482

Bintje, 4

Bison, 185

Bliss Triumph, 110

Butte, 4

Campbell 11, 390, 393

Campbell 13, 390, 393

Cascade, 131-2

Catoosa, 185

Centennial Russet, 459

Cherokee, 40, 410

Chieftain, 221, 225-8

Chippewa, 409-10

Cobbler, 10-14, 47-9, 337, 460

Croatan, 128

Daming Red, 49

Dazoc, 185

Denali, 459, 463

Drayton, 470

Earlaine, 40, 436

Early Epicure, 4

Frito Lay 96, 128

Frito Lay 144, 128

Frito Lay 162, 128

Green Mountain, 4, 337-8, 344, 351, 460

Hudson, 4, 100, 242-7, 249

Katahdin, 99, 100, 103-4, 108, 132, 155, 157-60, 176, 180-1, 205-6, 214, 243, 246, 249, 340, 409-10, 460, 544, 547

Katosa, 185

Kennebec, 4, 34, 131, 133-5, 166-8, 171, 180, 186, 221, 225-8, 327, 332, 375, 377, 380-3, 385, 393, 395, 397-9, 400, 409, 419-21, 459, 460, 477, 485, 490, 593, 595-8,

600, 602, 623

King Edward, 165, 470

LaRouge, 185

LaSoda, 185

Lemhi Russet, 4, 466-7, 481

Menominee, 40

Merrimack, 409-10, 476

Monona, 65, 166-8, 171, 389-93, 463

Nooksack, 4

Norchief, 185

Norhrin #1, 34, 36, 37

Norchip, 4, 114, 117-9, 121, 123, 128, 131, 133-5, 166-8, 171, 181, 298, 314, 463, 524, 593, 595-602, 606

Norgold Russet, 4, 367, 436, 459

Norland, 4, 114, 116, 121, 185, 375, 377, 380-3, 460, 476

Onaway, 334

Oneida, 128

Peconic, 39, 40

Pentland Crown, 242

Pioneer, 462

Pungo, 127

Red Bake, 185

Red Burt, 185

Red LaSoda, 4, 128, 185

Red McClure, 185, 359-60, 362-3

Red Pontiac, 4, 128, 179, 181-2, 185, 213-4, 218, 267, 397, 400, 463

Red Skin, 185

Red Warba, 185

Russet Burbank, 4, 18, 56, 62, 70, 77, 78, 80, 107-11, 150, 155, 157, 165, 213-5, 218,

221, 225-9, 254, 327, 332, 334, 337-8, 341, 347, 359-60, 262-3, 375, 377, 380-3, 385, 396, 397-9, 400-1, 415, 418-21, 436, 462-3, 465-8, 470, 472, 475, 477, 482, 517, 534, 537-9, 541, 543-4, 615, 619, 624

Saco, 126

Sebago, 128, 166, 170, 173, 175, 177, 327, 332, 485

Seminole, 128

Sequoia, 436

Superior, 100, 103-4, 114, 117-8, 121, 123, 128, 181, 186, 245, 247, 249, 327, 330, 332, 334, 398, 419-20, 426, 484, 534, 537, 539, 540, 543

Targhee, 176

Urgenta, 4

Viking, 435-6

Warba, 4

White Rose, 4, 221, 225-9, 490

Wyred, 185

## Potato

Numbered Seedlings

70-21, 399, 400

71-23, 399, 400

44106, 40

44043, 40

45208, 40

700718, 585

702440, 585

A6, 129

A119-15, 436

A444-9, 242

A6356-9, 435-6

A6948-4, 467

A7596-1, 477

A66107-51, 466-7

AC67560-1, 435-6

ADW75121-1, 477

AF186-5, 390, 393

AF205-9, 390, 393

AK10-1, 89, 90

AK87-8, 89, 91

B227-60, 242-4, 246, 249

B227-63, 241, 243-9

B227-128, 242-4, 246, 249

B3536-12, 132

B3672-3, 40

B3820-14, 132

B4312-4, 132

B4715-6, 40

B5141-6, 39, 40

B5298-14R, 132

B6705-10, 10-15

B7910-6, 10, 12-4

B8247-1, 10, 12-14

B8686-8, 477

BC<sub>3</sub>, 132

```
CA02-7, 534, 537, 539, 540, 543
```

CC26-1A, 390, 393

G6880-1, 39

HS17, 397, 399, 400

IP412, 477

Jak 072, 585, 589, 591

Minn. 64-57, 410

ND2910-1R, 132

ND4524-7R, 132

ND5455-1R, 132

ND7196-18, 131-2

ND8891-3, 131

Och 5331, 585, 589, 591

PCB-3, 242

PCB-4, 242

PI accessions, 100, 102-3

PI 214372, 132

PSDT 5, 396-9, 400, 419-20

PSDT 17, 395, 397-9, 400, 419-20

PSDT 24, 396, 397-9, 400, 419-20

PSDT 41, 395, 397-9, 400, 419-20

PSDT 52, 399, 400

PSDT 282, 399, 400

PSDT 292, 399, 400

PSDT 652, 399, 400 W729R, 397-9, 400-1, 415, 419-20

W771, 397, 399, 400

Wis 639, 409

Wis 707, 409

Wis 717, 409

Wis AG 231, 409-10

WnC316-1, 477

WnC612-13, 477

X927-3, 132

#### Potato

### Species

Solanum

albornozii, 263

andigena, 585

berthaultii, 95, 96, 99, 104, 241, 248-9

burtonii, 263

calacalinum, 263

chacoense, 40, 96, 105, 143, 145, 475

correlli, 263-4

cyanophyllum, 263

dulcamara, 99

gourlayi, 145, 197

infundibuliforme, 145, 475

kurtzianum, 145

megistacrolohum, 145

melongena, 1, 3

microdontum, 145

minutifoliolum, 263

nigrum, 153

oplocense, 197-8

pampasense, 145

paucijugum, 263

phureja, 155-9, 479

group phureja, 410, 412

phureja × tuberosum, 158

pichinchense, 263

regularifolium, 263

santollae, 145

sarachoides, 149, 151

solisii, 263

sparsipilum, 104

spegazinni, 145

stoloniferum, 145

sucrense, 144-5

suffrutescens, 262

tarijense, 95, 96, 99, 104

tuberosum, 9, 17, 28, 69, 78, 156, 165, 180, 241, 367, 395, 407-8, 415-6, 425, 467, 483

tuberosum gp. phureja, 145, 480

tundalomense, 263

vernei, 144-5

Potato bread, 605, 610

Potato cultivars, 179

Potato digger, 479, 551

Potato fertilization, 77

Potato leafhopper, 9, 95, 97, 99

Potato peel, 605

Processing waste waters, 471

Propagation techniques, 489

Psyllid yellows, 459

Pyrrolidine, 526

Rainfall, 55, 333, 368

Reconditioning, 389, 393

Reducing sugars, 316, 389

Regenerated clones from mesophyll protoplasts, 482

Relative humidity, 313, 315, 319-23

Resistance, 9, 95, 101, 133, 461, 483, 585

Respiration, 207-10

Ribavirin, 359-63

Root density, 107, 111

Root-knot nematode, 469

Root lesion nematodes, 327

Rootone, 157

Roots, 107

Ruminant animals, 395, 415

Capra hircus, 415, 417

Sclerotinia stem rot, 470

Seed tubers, 613

Selfing rates, 197, 199, 202

Sensory evaluation, 607, 609, 610

Silage, 395, 415

Sodium hypochlorite 522, 526-29

Soft-rot, 425, 515

Soil fumigants D-D, 470

Soilbrom, 85, 470

Telone C17, 470

Telone II, 327-31

Terrocide, 470

Vapam, 470, 526, 529

Soil temperature, 475

Soil treatment, 523

Soil water depletion, 490

Specific gravity, 113, 118, 122, 131, 437

Spectrophotometric technique, 58

Sprout cuttings, 461

Stem end browning, 337, 339, 341-44

Storage, 593

Storage temperature, 165, 313, 317, 319-22, 389

Suberization, 297, 305-9, 593

Sucrose, 36, 173, 205-6

Sugar content, 208

Sugars, 165, 205-6

Sulfuric acid, 526

Symbex, 465

Symcoat, 465

TBZ, 463

TDN procedure, 416

Tee-jet nozzles, 56, 254

Tetraploids, 480

Tetrazolium, 613, 618, 620, 622-3

TGA, 41

Thermotherapy, 221

Thin layer chromatography, 56, 57

TIBA, 27

Tissue culture, 17, 69, 221, 223, 360, 473

Tolerance, 163

Total solids, 136-7

Translocation, 468

Transpiration, 482, 533, 536

Triton B-1956, 256

True seed, 141, 197, 202-3

Tuberization, 17, 20, 22, 33, 69, 70, 77, 475

Tuber numbers, 370

Tuber protein, 425, 429

Tuber protein synthesis, 432

Tuber TGA levels, 415, 421, 436

2,4-D, 27, 267

2n eggs, 480

2n gametes, 407, 413

2n pollen, 479, 480

TZC medium, 157

Urea, 80

Variety names, 470

Vine maturity, 477

Virus

A, 481

beet western yellows, 347, 476

leafroll, 47, 48, 125, 337, 341, 345, 461, 476, 481, 483

M, 47, 481

S, 47, 214-8, 221, 375-6, 379, 381, 384, 481, 491

T, 481

tobacco rattle virus, 149-53

X, 33-4, 47, 126, 131, 133, 149, 214-18, 359-60, 375-6, 379, 381, 384, 481, 486, 491

Y, 47, 55, 58, 125, 253, 256, 259, 461, 481

Virus-free potato, 33, 221

Virus free stocks, 491

Virus transmissions, 257, 259

Warranties, 474

Water stress, 492, 533

Weight loss, 473, 515

WEX, 87

Wild potato, 263

Wound healing, 297, 515

Wound periderm, 297, 300-10

Yeast

Saccharomyces cerevisiae, 471

Yields of tubers, 87, 117, 122, 133, 135, 213, 219, 255, 327-8, 331-2, 367, 369, 372, 395, 398-9, 437, 461, 463, 475, 477, 480, 484, 490

Yield of vines, 395-6